



Humanized antibodies  
Serial No.: 09/910,483  
Replacement Sheet  
Figure 1

Figure 1.

Amino acid sequence of murine 1A6 antibody (SEQ ID NO: 37, 38, 41 and 42) and human consensus sequence of heavy chain subgroup III (Humiii) (SEQ ID NO: 39, SEQ ID NO: 45); and light chain kappa subgroup I (Hum kI) (SEQ ID NOS: 40, and 46).

**V<sub>H</sub> Domain**

	1	11	21	31	41
Mouse1A6	EVQLQQSGAE	LVKPGASVKL	SCTASGFNIK	DTYIHWMKQR	PEQGLEW I GR
	**	**	*	*	**

HumIII	EVQLVESGGG	LVQPGGSLRL	SCAASGFNFS	-----WVRQA	PGKGLEWVA—
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	51 a	61	71	81 a bc	91
Mouse1A6	IDPANDNTIYD	PKVQGKATMT	ADTSS NTAYL	QLSSLTSED	TAVY YCTT
		**	*	*	*

HumIII	-----A	DSVKGRF	T IS	RDDSKNTAYL	QMNSLRAEDTAVY YCTR
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	103	111
Mouse1A6	SGYWFA YWGQGLVT	VSA

	*
HumIII	----- --WGQGLVT VSS

**V<sub>L</sub> Domain**

	1	11	21	31	41	51
Mouse1A6	DIVLTQSPAT	LSVTPGDSVS	LSCRASQ	SIS NNLHWYQ	QKS HESPRLLIKH	ASQ
	**	**	***	*	***	*

HumkI	DIQMTQSPSS	LSASVGDRVT	ITC-----	-----	WYQQKP	GKAPKLLIY -- ----
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	61	71	81	91	101	
Mouse1A6	SISG I PS	RFSGSGSGTD	FTLSINSVET	EDFGMFFCQQ	SNSWPYTFGG	GTKLEIKR
	*		***	***	*	*

HumkI	---GVPS	RFSGSGSGTD	FTLTSSLQP	EDFATYYC ---	-----	FGQ GTKVEIKR
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Figure 3

**Figure 3**

Amino acid sequence of murine 1A6 antibody (SEQ ID NOS: 37 and 38), humanized 1A6 (HumB) (SEQ ID NOS: 43 and 44), and human consensus sequences of heavy chain subgroup III (HumIII) (SEQ ID NOS: 39 and 45) and light chain kappa subgroup I (HumKI) (SEQ ID NOS: 40, and 46).

**V<sub>H</sub> Domain**

	1	11	21	31	41
Mouse	EVQLQQSGAE	LVKPGASVKL	SCTASGFNIK	DTYIHWMKQR	PEQGLEWI GR
	* * * *	* * *	*	* * * *	* *
HumB	EVQLVESGGG	LVQPGGSLRL	SCAASGFNIK	DTYIHWVRQA	PGKGLEWVAR
HumIII	EVQLVESGGG	LVQPGGSLRL	SCAASGFNFS	-----WVRQA	PGKGLEWVA—

	51 a	61	71	81 a bc	91
Mouse	IDPANDNTIYD	PKVQGKATMT	ADTSS NTAYL	QL SSLTSED	TAVY YCT T
		* * * *	* *	*	* *
HumB	IDPANDNTIYA	DSVKG RFT I S	SDDSKNTAYL	QMNSLRAED	TAVY YCTA
			*		*
HumIII	-----A	DSVKG RFT IS	RDDSKNTAYL	QMNSLRAED	TAVY YCTR

	103	111
Mouse	SGYWFA YWGQGLVT	VSA
HumB	SGYWFA YWGQGLVT	VSS
HumIII	-----WGQGLVT	VSS

**V<sub>L</sub> Domain**

	1	11	21	31	41	51
Mouse	DIVLTQSPAT	LSVTPGDSVS	LSCRASQ	SIS NNLHWYQ	QKSH ESPRL	LIKH ASQ
	* *	* *	* * *	* * *	* * *	*
HumB	DIQMTQSPSS	LSASVGDRVT	ITCRASQ	SIS NNLHWYQ	QKPKLLIYH	ASQ
HumKI	DIQMTQSPSS	LSASVGDRVT	ITC-----	-----WYQ	QKPKLLIY --	----

	61	71	81	91	101	
Mouse	SISG I PS	RFSGSGSGTD	FTLSINSVET	EDFGMFFCQQ	SNSWPYTFGG	GTKLEIKR
	*	* * * *	* * *	*	*	
HumB	SISGVPS	RFSGSGSGTD	FTLTSSLQP	EDFATYYCQQ	SNSWPYTFGQ	GTKVEIKR
HumKI	---GVPS	RFSGSGSGTD	FTLTSSLQP	EDFATYYC ---	-----FGQ	GTKVEIKR

**Figure 4. cDNA Sequences of Humanized scFv3 (HumI) [SEQ ID. 47].**

The restriction sites are underlined. CCATGG NCO I SITE; GGATCC BAMH I SITE;  
GTTAAC HPA I SITE

CGAACCATGGGCGATATCCAGATGACCCAATCTCCGTCTAGCCTGAGC  
GCCAGTGTTGGTGATCGAGTTACCATTACTTGCCGCGCCAGCCAATCTATCAG  
TAATAATCTTCACTGGTATCAACAAAAACCGGGTAAAGCTCCGAAACTTCTT  
ATCAAACACGCCTCTCAGAGCATTAGCGGCGTTCCGAGCCGCTTCTCTGGCTC  
TGGCTCGGGCACGGACTTTACCCTTACCATCAGCTCTCTTCAGCCGGAAGACT  
TTGCCACCTATTATTGTCAGCAGTCTAATAGCTGGCCGTATACCTTCGGTCAA  
GGTACCAAGGTCGAGATTAAGCGCGGCGGTGGCGGTTCTGGTGGCGGTGGTA  
GCGGTGGCGGTGGATCCGGTGGCGGTGGCAGCGAAGTTCAACTTGTTGAGTC  
TGGTGGCGGTCTGGTTCAGCCGGGTGGCTCTCTGCGCCTGTCTTGCGCAGCAA  
GCGGTTTCAACATTAAGGACACCTACATCCATTGGATGAGGCAAGCTCCGGG  
TAAGGGTCTGGAGTGGGTGGCACGTATCGACCCGGCAAACGACAACACCATT  
TACGATCCGAAGGTGCAGGGCCGTTTTACTATGTCTGCGGACACCTCTAAGA  
ACACCGCGTACCTTCAGATGAACTCTCTGCGTGCCGAGGACACCGCCGTCTA  
CTACTGCACGACCTCTGGCTACTGGTTTGCCTACTGGGGCCAGGGCACGCTTG  
TCACCGTCTCTTCTGGTTAACCC

[0019] **FIG. 4** shows the cDNA sequence of humanized scFV3 ( single chain HumI)  
antibody. Restriction sites are indicated by underlining.

Figure 5

